## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 14 October 2004 (14,10,2004)

**PCT** 

(10) International Publication Number WO 2004/087986 A1

(51) International Patent Classification<sup>7</sup>: H01J 37/305

C23C 14/30,

(21) International Application Number:

PCT/GB2004/001469

(22) International Filing Date: 2 April 2004 (02.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0307745.0

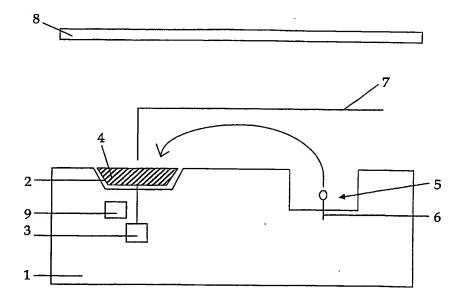
3 April 2003 (03.04.2003) GB

- (71) Applicant (for all designated States except US): MI-CROEMISSIVE DISPLAYS LIMITED [GB/GB]; Scottish Microelectronics Centre, The King's Buildings, West Mains Road, Edinburgh EH9 3JF (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): BUCKLEY, Alastair, Robert [GB/GB]; Flat 2F2, 92 Montpelier Park, Edinburgh EH10 4NG (GB).

- (74) Agent: HANSON, William, Bennett; Bromhead Johnson, Kingsbourne House, 229-231 High Holborn, London WC1V 7DP (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR DEPOSITING MATERIAL ON A SUBSTRATE



(57) Abstract: Material (4) is deposited on a substrate (8) by arranging the material in a container (2), and contacting the surface of the material (4) with a beam of electrons to so as to evaporate the material and transfer it to the substrate. A shield (7) opaque to electrons is arranged to cover a portion of the surface contacted by the beam of electrons. Relative movement occurs between the container (2) on one hand and the shield (7) and the beam of electrons on the other hand such that the portion of the surface previously contacted by the beam of electrons is no longer covered by the shield and is exposed to the substrate (8).



## WO 2004/087986 A1



## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.